

INTERIM ANNUAL REPORT
UPON THE
HEALTH OF WOLVERHAMPTON
FOR THE YEAR 1941

BY

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SECTION A.

STATISTICS AND SOCIAL CONDITIONS
OF THE AREA.

EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

AREA OF BOROUGH	...	...	...	...	...	...	9,113 Acres.
POPULATION (Registrar-General's estimate)	...	...	...	...	...	...	144,920.
(Census 1931)	...	...	...	...	...	...	133,212.
NUMBER OF INHABITED HOUSES (1941)	...	...	...	...	...	...	40,782.
RATEABLE VALUE	...	...	...	...	...	...	£972,269.
Sur represented by a Penny Rate	...	...	...	...	...	...	£3,823.

	<u>Total.</u>	<u>Male.</u>	<u>Female.</u>		
LIVE) Legitimate	2,416	1,225	1,191	BIRTH)	
BIRTHS) Illegitimate	123	65	58	RATE)	17.5.

STILL BIRTHS	81				
Rate per 1,000 Total Births	...	...	...	...	30.9

DEATHS	1,618	854	764	DEATH)	11.2
				RATE)	

NATURAL INCREASE OF POPULATION	...	...	...	...	921.
(Excess of births over deaths in the year).					

DEATHS FROM PUERPERAL CAUSES.

	Deaths.		
(a) Puerperal Sepsis	4	RATE PER)	1.51
(b) Other Puerperal Causes	2	1,000 BIRTHS)	0.75

DEATHS OF INFANTS UNDER	(Legitimate (124)	...	...	51.
ONE YEAR PER 1,000 BIRTHS	(Illegitimate (5)	...	...	40.
	(Total (129)	...	...	50.

DEATH RATE from Measles (2)	...	...	...	...	0.01
" " " Whooping Cough (3)	...	...	...	...	0.02
" " " Diarrhoea and Enteritis (7)					
(under 2 years per 1,000 births)...	...	...	...	...	2.75
" " " Cancer (221)	...	...	...	...	1.52
" " " Respiratory Tuberculosis (75)	...	...	...	...	0.52
" " " all forms of Tuberculosis (96)	...	...	...	...	0.66

Note:- The figures in the above table are those supplied by the Registrar General.

GENERAL PROVISION OF HEALTH SERVICES IN THE
AREA.

A. VITAL STATISTICS.

(i) Population.

The Registrar General gives the civilian population of the town as 144,920 in the middle of 1941. This figure has been used in calculating both the birth rate and the death rate.

(ii) Births.

The net total births registered during the year was 2,539, representing a birth rate of 17.5, that for England and Wales being 14.2. Last year Wolverhampton's birth rate was 16.4. Still-births registered were 81.

(iii) Deaths.

The net deaths amounted to 1,618, giving a general death rate of 11.2 which is the same figure as for the previous year. For England and Wales this figure was 12.9 and for the 126 great towns it was 14.9. There was a slight decrease in the death rate from whooping cough, from all forms of tuberculosis and from diarrhoea and enteritis (under two years of age). Cancer deaths rose from 206 to 221.

(iv) Infant Mortality.

The total deaths under one year of age were 192, comprising 125 legitimate and 4 illegitimate. The infant mortality rate fell to the remarkable figure of 50 DEATHS PER 1,000 BIRTHS. This is the lowest infant mortality rate ever recorded in Wolverhampton, the previous lowest being 55 in 1938. The corresponding figure for England and Wales is 58.

B. TREATMENT CENTRES AND CLINICS.

At the beginning of 1941 an Infant Welfare Clinic and Clinic for Expectant Mothers was opened in the Methodist Church, Fordhouses, and the Moseley Village Clinic was closed. This change was needed because of the increase in the number of mothers and babies in the north of the town and the reduction at Moseley Village consequent on the completion of the Moseley Village Clearance Scheme. The new clinic provides one session per week for expectant mothers and one for babies and toddlers.

Regular sessions are now devoted to diphtheria immunisation at the following Welfare Centres :-

Park Lane Clinic	-	Wednesday at 4 p.m.
Lea Road Clinic	-	Wednesday at 4 p.m.
Ward Street Clinic	-	Thursday at 4 p.m.
Lower Stafford Street Clinic	-	Thursday at 4 p.m.
Fordhouses Clinic	-	Monday at 4 p.m.

C. HOSPITALS.

The new wing at the Royal Hospital was put into service in 1941, thus increasing the total number of beds at that institution by ninety.

A new mortuary was provided at New Cross Hospital.

MATERNITY AND CHILD WELFARE.(a) MIDWIVES.

The number of midwives who notified their intention to practise during 1941 was as follows :-

Trained midwives working in institutions....		27
Municipal midwives		20
Trained midwives working independently		9

There were no complaints about the conduct of any midwives. The number of whole-time midwives working for the Corporation fluctuated between 14 and 17 owing to resignations and new appointments. At the end of the year there were 16 women in this service which number appears adequate for the needs of the town.

During 1941 the Municipal midwives attended 11,844 ante-natal examinations of their patients, paid 31,470 home visits and dealt with 1,363 confinements, either in the capacity of midwives or maternity nurses. The total number of cases attended by a midwife during the year was 85. One midwife who had voluntarily surrendered her certificate in 1939 under Section 5 Sub-section (1) of the Midwives Act, 1936, was temporarily reinstated for service within the Borough of Wolverhampton and joined the Municipal Midwifery Staff.

(b) MATERNAL MORTALITY.

There were six maternal deaths during the year, four being due to puerperal sepsis and two to other puerperal causes. This is equivalent to a maternal death rate of 2.8 per 1,000 births, and is considerably lower than the average of the previous five years. The following is a short summary of these six deaths :-

- (1) Adequate ante-natal care. Hospital treatment refused. Death due to toxæmia of pregnancy.
- (2) No ante-natal care. Death in hospital from eclampsia when 26 weeks pregnant.
- (3) No ante-natal care. Death in hospital from septicaemia following abortion.
- (4) Adequate ante-natal care. Death due to pulmonary embolism eight days after confinement.
- (5) Normal pregnancy and puerperium. Death due to pneumococcal peritonitis five weeks after delivery.
- (6) No ante-natal care. Death due to septicaemia following abortion.

(c) ANTE-NATAL CARE.

The figures for 1941 again show that a very satisfactory number of women in Wolverhampton are having ante-natal care by a doctor during pregnancy. During the year there were 3,175 deliveries. As the following table shows only 160 cases can no record of medical care be proved :-

Number attending the Municipal A.N. Clinic ...	...	1,154
" " a G.P. under the A.N. Scheme ..	...	818
" " A.N. Clinic at Women's Hospital ...	...	131
" " " " at New Cross Hospital ...	...	190
" confined in Nursing Homes who engaged a doctor.		363
" " at home known to have engaged a doctor		278
" living in and confined in institutions under the care of a doctor ...	...	81
		<u>3,015</u>

(c) ANTE-NATAL CARE. (Continued).

Five sessions for expectant mothers are now being held in Wolverhampton each week with a doctor in attendance at each.

The average attendance of mothers at the various clinics varies between 14.0 at Fordhouses and 20.2 at Lower Stafford Stroot. The average number of attendances made by each expectant mother is 4.75.

(d) INFANT WELFARE.

The welfare centres were open as usual during 1941 except that a clinic at Fordhouses was substituted for the one at Moseley Village. New cases under one year of age amounted to 1,442, and new cases over one year of age to 242. The total attendances registered at all the clinics amounted to 17,102 which is practically the same figure as last year.

The nine health visitors between them paid a total of 21,781 home visits to mothers and children in addition to making 1,385 attendances at clinics. Visits to infants under one year amounted to 6,351 and to toddlers 9,376.

At three of the clinics the distribution of fruit juices to young children was carried out under the Ministry of Food Scheme, the work mainly falling on the shoulders of the whole-time personnel of First Aid Posts.

(e) NURSING HOMES.

The number of registered Nursing Homes in the Borough remains at eleven, with fifty available maternity beds and thirty-six medical or surgical beds. Several Homes have been having difficulty with staffing arrangements, but care has been taken to see that they conform to the requirements laid down in the Public Health Act, 1936. It was found that one or two Homes had not been keeping the records completely up-to-date. The attention of the keepers concerned was called to the Byo-laws regarding Nursing Homes. On the whole the Homes were being run in a satisfactory manner.

(f) CHILD LIFE PROTECTION.

There have been 39 Foster children under supervision during 1941; 14 being new cases. Infant Life Protection Visitors paid 72 visits - many foster children attend the clinic regularly. Ten children have been removed from the books, 5 have returned to parents, 2 to Aunts and 3 have reached the age of nine years - these are still with their foster parents and seem quite happy and well cared for. On the 31st December, 1941, 29 children were on the books under the care of 27 foster mothers.

(g) DAY NURSERIES.

In December, 1941 a report was submitted to the Council proposing the immediate establishment of a war-time nursery at The Woodlands, Bushbury Road, and suggesting that additional nurseries might be necessary at a later date if there was found to be a demand for them. This report was referred back for further consideration. An amended report showing certain estimated economies in running expenses was subsequently approved by the Town Council on January 12th, 1942).

SANITARY CIRCUMSTANCES OF THE AREA.

In compliance with the suggestion of the Ministry of Health the detailed information usually supplied is omitted from this report, but all the particulars have been maintained as usual, and are being filed for reference.

(1) NUISANCES.

There were 1,613 premises reported to the Committee during the year, preparatory to the service of formal notices requiring the abatement of nuisances.

Four complaints were received regarding alleged excessive noise from factory premises, but in each case the noise was mitigated by the Firms concerned without recourse to legal proceedings.

(2) OVERCROWDING.Cases of Overcrowding Remedied, 1941.

By Displacements under Part I of the Housing Act, 1936	...	...	8
By Displacements under Part II of the Housing Act, 1936	...	...	Nil
By Transference of families in overcrowded Council houses to larger houses	...	...	Nil
By allocation of Council houses to families in privately owned houses	...	...	2
By removal or reduction in the size of families	...	...	5
			15
			==
Cases remedied after service of notices under sections 59 or 66 of the Housing Act, 1936	...	...	11
			==
TOTAL ABATED	...	...	26
			==

(3) SCABIES.

Despite the depletion of staff, it has been found necessary to continue the treatment of persons affected by scabies and similar parasite diseases. The Station was utilised during the year in connection with the following families :-

Cases of Scabies Dealt With, 1941.

	:No. of families affected:	:No. of houses concerned:	Analysis of Persons Treated									: TOTAL number of persons treated.		
			Adults (Over 14 years)			Children (4 to 14 years)			Under 4 years			: M	: F	: Total
			: M	: F	: Total	: M	: F	: Total	: M	: F	: Total			
1941	28	21	22	40	62	24	16	40	7	6	13	53	62	115
to date	64	59	67	89	156	60	55	115	28	15	43	155	159	314

SECTION D.

6.

HOUSING CONDITIONS.(1) TILE DALE STREET CLEARANCE SCHEME.

Clearance of the Dale Street Area was continued during 1941 when 202 houses were demolished and 638 persons were displaced.

The following table summarises the progress of the Corporation's Clearance Schemes to date :-

Year	Statute	Scheme	:No. of Houses :		No. of Persons Displaced.
			: Demolished. :		
			: Pink :	: Grey :	
1925	:Housing Acts, 1930:	Faulkham Street Improve-	: 279	: -	: 1,498
1930	:	to L.D.S. Area: C.P.O.	:	:	:
1932	:Housing Act, 1930	:Bridgman Craft Area:CPO.	: 67	: 2	: 308
1933	: do.	: do.	: 82	: 6	: 400
1934	: do.	: do.	: 3	: 5	: 24
"	: do.	:Walsall St. (West) Area:	: 20	: -	: 91
1935	: do.	: do. C.P.O.	: 406	: 4	: 1,953
1936	: do.	: do.	: 20	: 1	: 73
	: do.	:Gannan St. Area: C.P.O.	: 5	: -	: 21
	: do.	:Walsall St. (East) C.P.O.	: 64	: 1	: 267
1937	: do.	: do.	: 300	: -	: 1,071
	: do.	:Walsall St. (West) C.P.O.	: 1	: -	: 12
	: do.	:Wood Street (No.1) Area:CPO:	: 7	: -	: 14
	: do.	:Wood Street (No.2) " Cl.O.:	: 13	: -	: 64
	: do.	:Shrubbery St.Area: C.P.O.	: 3	: -	: 11
	: do.	:Wood Street Area: C.P.O.	: 11	: -	: 50
	: do.	:Navigation St.Area: C.P.O.	: -	: -	: -
1938	: do.	:Walsall St. (West)Area:CPO.	: 1	: 2	: 9
	: do.	:Walsall St. (East) " CPO.	: 79	: -	: 330
	: do.	:Wood Street (No.1) " CPO.	: 9	: -	: 41
	: do.	:Shrubbery St.Area: C.P.O.	: 18	: -	: 73
	: do.	:Navigation St.Area: C.P.O.	: 43	: -	: 170
	:Housing Act, 1930	:Monmore Green (No.1) Area CPO:	: 119	: 1	: 507
	: do.	:Monmore Green (No.1A) " Cl.O:	: 7	: -	: 30
	: do.	:Monmore Green (No.2) " CPO	: 9	: -	: 44
	: do.	:Monmore Green (No.2A) " Cl.O:	: 3	: -	: 13
	: do.	:Moseley Village (No.1)	: 2	: -	: 11
1939	: do.	: do. Area (C.P.O.)	: 4	: -	: 24
1939	:Housing Act, 1930	:Walsall St (East) Area:CPO	: 2	: 3	: 8
	: do. 1936	:Monmore Green (No.1) Area	:	:	:
	:	: C.P.O.	: 143	: 5	: 593
	: do.	:Monmore Green (No.2A)Area:Cl.O:	: 2	: -	: 3
	: do.	:Monmore Green (No.3)Area:CPO:	: 13	: -	: 44
	: do.	:Monmore Green (No.4)Area:CPO:	: 28	: -	: 113
1940	: do.	:Monmore Green (No.1)Area:CPO:	: 17	: 5	: 70
	: do.	:Moseley Village (No.1)Area:	:	:	:
	:	: CPO:	: 64	: -	: 254
	: do.	: do. (No.2) C.P.O.	: 6	: -	: 19
	: do.	:Dale St. (No.1)Area: C.P.O.	: 8	: -	: 32
1941	: do.	:Monmore Green (No.1)Area:CPO:	: -	: 4	: 70
	: do.	:Moseley Village (No.1)Area:	:	:	:
	:	: CPO:	: 34	: 1	: 1
	:	: Dale St. (No.1)Area: C.P.O.	: 202	: -	: 887
	:	TOTALS	: 2094	: 11	: 2061

(2) INDIVIDUAL UNFIT HOUSES.

The Council's activities under Sections 11 and 12 of the Housing Act, 1936, came to an abrupt end in September, 1939, but certain progress was made during 1941 with regard to Demolition Orders already made.

The undermentioned table shows the activities of the Council since 1932 with respect to individual blocks of unfit dwelling houses :-

INDIVIDUAL UNFIT HOUSES.
SUMMARY OF ACTION TAKEN FROM JANUARY, 1925 to
31st DECEMBER, 1941.

Year.	Statute.	No. Houses Represented.	Closing Orders made.	Demolition Orders made.	No. Houses Closed.	No. Houses Demol'd.	Statutory Undertakings Accepted.	Statutory Undertakings Compld. with.	Closing Orders Deter-mined.	Houses voluntarily demol'd.
1925	1925 Act	16	16	-	16	-	-	-	-	-
1926	do.	22	22	-	22	18	-	-	-	-
1927	do.	25	25	3	25	19	-	-	-	-
1928	do.	8	8	4	8	7	-	-	-	-
1929	do.	19	19	6	19	8	-	-	-	-
1930	do.	5	5	1	5	17	-	-	-	-
1931	do.	-	-	17	-	18	-	-	-	-
	1930 Act	32	-	32	-	2	-	-	-	-
1932	do.	152	-	95	-	97	1	1	-	22
1933	do.	232	26	188	26	105	4	4	5	96
1934	do.	240	20	173	20	162	3	3	20	29
1935	do.	277	1	218	1	144	74	16	6	42
1936	do.	139	2	210	2	294	32	49	8	37
1937	1936 Act	460	2	172	2	127	33	37	-	43
1938	do.	513	11	679	11	388	126	105	2	49
1939	do.	473	5	226	3	384	95	79	1	18
1940	do.	-	-	11	-	163	6	34	-	21
1941	do.	-	-	-	-	41	-	-	-	7
TOTALS Under 1925 Act.										
		95	95	32	95	87	-	-	-	-
TOTALS Under 1930 Act.										
		1,072	49	916	49	804	114	73	39	226
TOTALS Under 1936 Act.										
		1,416	16	1,023	16	1,103	260	255	3	138
TOTALS Under Various Statutes.										
		2,613	160	1,976	160	1,994	374	328	42	364

* The figures include 2 houses which were demolished before the Orders could be served.

INSPECTION AND SUPERVISION OF FOOD SUPPLY.(1) MILK.

On December 31st, 1941, the number of purveyors and producers on the register was as follows :-

Retail Purveyors (in general)	214
Retail Purveyors of bottled milk only	547
Total ...	761

<u>Premises:-</u>	Cowsheds	19
	Dairies	140
	Total ...	159

The licences in force for Milk (Special Designations) Order, 1936, were as follows :-

(a) Tuberculin Tested	-	12
(b) Accredited	-	29
(c) Pasteurised	-	29

BACTERIOLOGICAL AND BIOLOGICAL EXAMINATION OF SAMPLES OF MILK.

Tabular summary is as follows :-

Grade of Milk.	No. of Samples submitted for Biol- ogical ex- amination in 1941	Number reported			Result of subse-			TOTAL		
		positive to			quent action under			Number of Bovines		
		Tubercle bacilli			Tuberculosis Order			slaughtered at		
		1938			Abattoir under Order					
		Prod- used within bor- ough TOTAL	Prod- used out- side bor- ough TOTAL	No. of anim- als slau- ghter- ed	Result of further sample.	From Premises within the Bor- ough	From Prom- ises out- side Bor- ough	TOTAL		
Tuberculin Tested.	7	-	-	-	-	-	-	-	-	-
Accredited	21	-	-	-	-	-	-	-	-	-
Pasteurised.	3	-	-	-	-	-	-	-	-	-
Admitted.	28	-	1	1	1	Negative.	-	-	-	-
TOTALS ..	59	Nil	1	1	1	-	1	47	48	

(2) PUBLIC ABATTOIR.

One full time Inspector is employed at the Public Abattoir, and a further District Inspector is on duty throughout the week, two Inspectors thus being employed full time on this work.

Under the Tuberculosis Order, 1938, 48 animals were slaughtered as against 45 in 1940. 10 of these were totally condemned on account of advanced tuberculosis against 17 similar condemnations last year. This figure includes the single animal which was taken from premises within the Borough.

Ante-mortem inspection at the sale yards by the Veterinary Officer has resulted in a number of animals being sent to the Abattoir for slaughter. On examination such animals were found to be affected chiefly with tuberculosis or mastitis.

(3) ICE CREAM.

The following is a list of premises and persons registered for the manufacture and sale of ice cream in 1941:-

Manufacturers	--	43
Vendors, Merchants or Dealers	-	300
Total	-	<u>343</u>
Premises for manufacture	-	38
Premises for sale only	-	<u>293</u>
Total	-	<u>331</u>

During the year four samples were taken from various dealers and submitted for bacteriological examination. All four samples were reported to contain B. Coli in 0.01 c.c. Three samples showed a total bacteria count between 10,000 and 100,000, and the fourth a count between 100,000 and 500,000.

(4) AMENITIES IN FOOD PREMISES.

During 1941, 27 food premises were provided with a constant hot water supply bringing the total thus equipped to 720, including 320 ice cream manufacturers and 150 butchers shops.

(5) THE FOOD AND DRUGS ACT, 1938.
Sampling.

354 samples of food and drugs were taken during the year for analysis by the Public Analyst, consisting of 75 formal and 279 informal samples. 39 samples (11.02%) consisting of 20 formal samples and 19 informal samples were found to be non-genuine.

168 milk samples were submitted for analysis, and 13 (7.73%) were reported to be adulterated or below the presumptive standard of 3% milk fat laid down by the Sale of Milk Regulations. 2 samples of milk were found to contain about 1% added water.

One sample of sterilised milk, was found to contain 90% of extraneous water. Undoubtedly the water gained access to the milk during the processing of the milk due to faulty fitting of the corks. The firm was communicated with and steps were taken to obviate the putting on sale of such milk.

With respect to other non-genuine samples of milk where the deficiency was one of milk fat in each case, samples taken at the farm proved that the deficiency was a natural one, or else the deficiency was so small as not to justify the institution of proceedings. In 3 instances letters of warning were sent by the Town Clerk to the vendors concerned. 4 "Appeal to Cow" samples were taken at various farms situated outside the borough. One sample was found to be deficient in fat.

A sample of shredded Beef Suet was found to contain an excessive amount of Rice Flour. Proceedings were instituted but withdrawn upon the manufacturer undertaking to withdraw the article from sale.

A milk substitute powder consisting mainly of flour was sold by a retail shopkeeper as "Dried Milk". He was convicted and a fine of £2 imposed, together with costs of 18/6d.

Proceedings were instituted against the distributors of a milk substitute powder marketed under the name of "Milkmaster". The substance consisted of flour, gum and salt; a fine of £15 was inflicted with costs amounting to £46.8.0d.

A substance sold as "Eggstard" with a claim to be "equivalent in use to 12 eggs", was found to consist mainly of flour, oatmeal, soya bean flour and gum. Proceedings were instituted for a misleading label and a conviction was recorded against the distributors. A fine of £15 was inflicted and costs of £8.11.3d. imposed.

No infringement of the Public Health (Condensed Milk) Regulations of the Public Health (Dried Milk) Regulations were reported.

At the beginning of January an outbreak of trichiniasis occurred in Wolverhampton and the surrounding districts. As soon as the outbreak had been confirmed and the necessary details were available, preliminary and interim reports on it were submitted to the Health Committee and to the Ministry of Health. During the epidemic, 130 cases were reported, all of them occurring between the first week in December, 1940 and the beginning of March, 1941. The peak of this epidemic fell between December 18th and January 6th in which period 76 cases occurred. There was a secondary peak of 14 cases between January 16th and January 25th. Ninety-eight of the 130 cases lived in Wolverhampton itself, and 32 resided in adjoining areas.

In addition to the known cases, there would be many more whose symptoms were so mild that medical advice was not sought and there would also be another group who obtained treatment in the early days of the outbreak and before doctors were on the lookout for this somewhat rare disease. The extent of these missed cases received definite confirmation from the skin tests subsequently carried out in the district by Dr. Paul Beeson and Dr. Hawley. It would probably be reasonable to assume that 500 - 600 persons in all were affected to some extent.

It was known that the usual method by which trichiniasis is conveyed to man is by the consumption of raw or insufficiently cooked pork, including fresh pork and manufactured pork products. Routine enquiries at the homes of 124 of the 130 reported cases in the area established the fact that pork sausage was consumed by 110 patients; 65 ate it raw, and 45 had it cooked.

It should be noted that the ordinary method of cooking sausage is not entirely reliable. Other pork products also came under suspicion, including bacon, brawn, pork pie, pig's pudding and fresh pork. Some of these could not be entirely excluded but the method of preparation of most of them rendered it unlikely that they could transmit the parasites.

Age and Sex Distribution.

Adult males	..	13
Single females	..	19
Married Females	..	69
Children	..	23

An enquiry from 767 working-class families in different parts of the town gave the following results :-

280 families admitted the habit of eating raw sausage. This habit was restricted to the housewife in 174 cases, and in 106 families raw sausage was eaten generally by all the members of the family.

This enquiry helped to explain the puzzling age and sex distribution of the outbreak.

The 124 cases in respect of whom detailed reports were received could be classified among the following local manufacturers of pork products.

A. Wolverhampton	-	6 cases.
B. Wolverhampton	-	37 cases.
C. Wolverhampton	-	12 cases.
D. Brierley Hill	-	26 cases.
E. Wolverhampton	-	2 cases.
F. Willenhall	-	4 cases.
G. Birmingham	-	5 cases.
Miscellaneous	-	32 cases.

"B's factory is in Wolverhampton itself, 'C' possesses premises in an adjoining area, and 'D' manufactures pork products some ten miles away. All three firms own retail shops in Wolverhampton and also supply their products to a total of 338 other retailers.

Consumption of Sausage Meat. The average weekly sales of pork sausage in Wolverhampton during December 1940 were checked up and it was found that some 27,000 lbs. was purveyed by twelve different firms and that the above three firms 'B', 'C' and 'D' contributed 16,000 lbs. of this total between them. (At this time pork sausage Grade B was allowed to contain 50% - 60% of meat).

Composition of Sausage. Enquiries revealed that it is only the trimmings of bacon pigs that are converted into sausage - roughly 4-5 lbs. per bacon pig - and that the chief pork constituent is the flesh of sows or boars weighing between 300 and 400 lbs. An average sow or boar will provide 45% - 50% of meat for conversion into sausages, pork pie or brawn, so that one infected sow or boar could contaminate several hundred persons, whereas a bacon pig, which is a younger animal, is less likely to be so heavily infected and only a relatively small proportion of this carcass (2½%) is converted into sausage.

A detailed investigation of the retail premises at which the affected households had purchased sausage meat during the critical periods cast definite suspicion on the pork products of the three firms 'B', 'C' and 'D', and an endeavour was then made to find any common source of supply. (1) Every pig, sow or boar used by those firms for manufacturing purposes (including shop pork and bacon pork) was traced to the farm on which it was reared. (2) All imported carcasses were traced to the port of entry and to the actual ship. (3) From the beginning of February, 1941, Professor Leiper, who had been asked by the Ministry of Health to assist in the investigations, set up a laboratory in Wolverhampton and examined every pig carcass slaughtered at the abattoir for signs of trichiniasis. (4) With the help of the County Authorities of Staffordshire and Shropshire, enquiries were instituted into the degree of rat infestation of suspect farms and a number of rats were caught and examined for evidence of trichiniasis. (5) The possibility of infection being spread by swill was also investigated but enquiries under this heading gave no positive result. In spite of the amount of detailed work which was carried out with the greatest co-operation from farmers, pork butchers and the Authorities concerned, it was impossible to fix the source of the infected pork. The presumption is that there were at least three separate foci of infection during the Wolverhampton epidemic and that these foci probably originated in home produced pigs raised in Staffordshire and/or Shropshire.

Confirmatory evidence of the implication of manufacturers 'B', 'C' and 'D' in this epidemic was produced by Drs. Beeson and Hawley who carried out special skin tests on those of the employees of these three firms who were chiefly concerned in the manufacture of sausages. Five of the employees of 'B' (two of whom were known to have had trichiniasis) gave a positive reaction; one of 'C's' employees reacted, and there were four positives among twelve of the workpeople in the firm 'D'. The only other positive results were those obtained by Professor Leiper on rats caught at the intake screen of the Wolverhampton Sewage Works; two of these were positive.

Association with other outbreaks of Trichiniasis. There were three small outbreaks of trichiniasis in South Wales in 1939 and 1940, an outbreak in Penrith and one at Harpenden in February, 1941, and one at Birmingham immediately afterwards. It was not possible to link up the Wolverhampton epidemic with any of these.

Endemicity of the Disease. At Professor Leiper's suggestion parts of the diaphragms of human beings whose deaths had been followed by a post mortem examination were tested for the presence of trichinellae, with surprising results. Out of fifty-six specimens examined from persons resident in the Black Country, ten showed evidence of having had a previous attack of trichiniasis, and at least three of these were of some years duration, i.e. the illness had occurred some considerable time previously.

Summary.

(a) Widespread outbreak of trichiniasis involving Wolverhampton and surrounding areas. Several severe cases but no fatal ones.

(b) Exciting cause of the outbreak was probably home produced pigs, especially sows and boars.

(c) Predisposing cause was the local habit of eating raw sausage. Housewives particularly affected because they are the chief culprits.

(d) Impossible to trace the infected swine to any one farm or to link up the Wolverhampton outbreak with others occurring about the same time.

(e) Definite evidence that trichiniasis is endemic in the Black Country.

VENEREAL DISEASES.

The number of new cases of syphilis presenting themselves at the Treatment Centre showed no significant change from previous years, being 42 males and 48 females. The defaulter rate was not above the average.

There was a sharp rise in the number of new cases of gonorrhoea in the male (167 as compared with 97 in 1940 and 122 in 1939). There was also a smaller rise in the new cases of gonorrhoea in women. The percentage of defaulters from treatment showed no appreciable change.

SECTION F.INFECTIOUS AND OTHER DISEASES.

There were two epidemics during the year, one of Measles from April to August, and the other of Scarlet Fever from September reaching its peak about the end of December. The mortality rate of both diseases was low. Diphtheria still remains virulent to the uninoculated members of the community. The standard of health of Wolverhampton remains high as shown by low mortality rates for all infectious diseases.

SCARLET FEVER.

645 cases of scarlet fever were notified, 270 more than in 1940. The diagnosis was revised in 10, giving a net incidence of 635, or 4.3 per 1,000. 301 or 47% were treated in hospital. One death occurred. Return cases numbered 9 or 1.4%. Encouragement is given to practitioners to treat cases at home when satisfactory isolation can be given. The disease is becoming more prevalent, and more severe types have occurred.

DIPHTHERIA.

222 notifications of diphtheria were received. Deducting 48 cases of revised diagnosis, the net incidence was 174 or 1.2 per 1,000 compared with 1.1 per 1,000 in 1940. This incidence, in view of the increasing numbers of immunisations performed, suggests that non-immune children must have suffered a much heavier attack rate than in preceding years. It was again noted that young adults are more at risk. There were 24 deaths, a case mortality of 13.7% for the year. 21 deaths occurred at hospital, 3 deaths occurred at home.

MEASLES.

2,395 cases were notified. 8 cases were admitted to hospital. 3 deaths occurred, 2 at home and 1 in hospital.

WHOOPING COUGH.

271 cases were notified, and there were 3 deaths. No cases were admitted to hospital.

MISCELLANEOUS.

ENTERIC FEVER. One case of Typhoid Fever was notified and ten cases of Paratyphoid B. Seven of the latter occurred during May and June and were part of a larger epidemic occurring at that time in the West Midlands. The infecting agent was synthetic cream. There were no deaths.

DYSENTERY. 5 cases were notified. 3 admitted to hospital. 1 death occurred.

CEREBRO-SPINAL FEVER. 9 cases were notified. 8 cases admitted to hospital. 3 deaths occurred in cases which had not been notified. The cases were spread over the year. Compared with the rest of the country the number of cases seems low.

ANTERIOR POLIOMYELITIS. 3 cases notified but 2 notifications were cancelled. No deaths occurred.

ERYSIPELAS. 60 cases were notified. 12 cases admitted to hospital. 1 death occurred at home.

ENCEPHALITIS LETHARGICA. None notified.

The problem of staffing, both nursing and domestic, continues to become acute with the mobilisation of womanpower for the war effort. The splendid work of the nursing staff has more than counter balanced any reduction in our capacity to admit. It is hoped, however, that the domestic staffing problems of the smaller hospitals are being overcome by the recognition that this work is an essential war effort.

619 cases were admitted in 1941; 70 were from outside areas.

(a) SCARLET FEVER.

Admissions of this disease numbered 326 as compared with a pre-war figure of 308 in 1938, and is 40 less than in 1940. Only 26 cases were received from other authorities.

There was one death during the year, but the more serious complications of nephritis, rheumatism and septicaemia were rare. Adenitis and Otorrhoea occurred in 7% and 4% of cases respectively. The 'return case' rate was 2.7%. Towards the end of the year a feature was the rather intense rash and high temperature at the onset. Sero and chemo-therapy continued in routine use and an analysis of the results showed 84% had no complications on chemo-therapy alone and 50% had no complications on serum alone.

An interesting outbreak of scarlet fever occurred in the Royal Orphanage from which 13 cases were received. The cases were admitted in two groups - 11 boys and 2 girls - and in the 3 weeks intervening period many suffered from sore throats without the development of any rashes. Sore throats without rashes occurred during the epidemic but whether these were epidemic sore throats or the type of scarlet fever without rash could not be definitely proved.

Operations. (a) Masteidectomy - Nil.
(b) Myringotomy - Nil.
(c) Tracheotomy - 6

(b) DIPHTHERIA.

243 cases of diphtheria were admitted; 30 cases were admitted from other areas. Of these admissions the diagnosis was revised in 60, leaving a total of actual cases of 162 for Wolverhampton and 21 for other areas. The net incidence was .89 per 1,000. 30 'carriers' of diphtheria were admitted. Deaths numbered 28, of which 21 were Wolverhampton cases, giving a case mortality of 18.7%, an increase of 6.3%. An analysis of the deaths showed 11 were admitted on third day of disease or earlier, and seventeen were admitted on fourth day of disease or later. Of the latter, six cases were moribund on admission.

An analysis of cases and deaths (Table A.) amongst the immunised and non-immunised cases is given below, and brings out the preventative value of previous immunisation. It appears probable that with the great proportion of the school population now immunised the disease will for a time assume a very virulent form amongst the unimmunised, but it is significant from Table B. that the incidence of the disease has decreased in the child and relatively increased in the adult population.

TABLE A.

<u>Children - ages 5 - 14.</u>	(1) <u>Immunised:</u>	(a) Developed diphtheria - 8
		(b) Deaths from diphtheria - 0
	(2) <u>Not Immunised:</u>	(a) Developed diphtheria - 81
		(b) Deaths from diphtheria - 8

TABLE B.

	AGE AND SEX DISTRIBUTION									
	0 - 5		5 - 10		10 - 20		20 - 30		30 - 50	
Males 89.	25	28%	29	32%	27	30%	6	6%	2	4%
Females 71.	11	15%	25	35.5%	25	35.5%	5	7%	5	7%

The increasing virulence in the non-immunised is shown by a high incidence of paralyses, e.g. Palate - 38 cases.

Other complications are shown below :-

	Total
Pharyngreal 3 (slight), 4 (severe)	7
Ocular	12
Facial	5
Diaphragm	2
Logs	4
Neck	6
Cardiac 11 (slight), 5 (severe)	16
Adenitis	22
Otorrhoea	7
Albuminuria	5
Intercurrent diseases	23

There were 7 admissions suffering from scabies or 4% of the total admissions.

(c) LARYNGEAL DIPHTHERIA.

Number treated	- 13
Tracheotomy	- 6
Deaths	- 2
Moribund on admission	- 2

(d) IMMUNISED PERSONS ADMITTED AS SUFFERING FROM DIPHTHERIA.

8 cases admitted - 1 case immunised 1936 (TAM), 2 cases in 1938 (TAM), 5 cases in 1939 (APT). In 2 cases a Schick negative had become Schick positive. In 2 cases there was slight Palate paresis. 2 cases were mild, the remainder were severe. The 1936 case was Schick negative in 1936, received a large intravenous and intramuscular injection on admission to hospital, but developed a paresis of palate, and remained Schick positive three months after admission. All the immunised cases made a complete recovery. An investigation into the duration of immunisation immunity will be carried out in the New Year.

(e) OTHER DISEASES.

Other diseases treated during the year included :-

Anterior Poliomyelitis	- 1
Cerebro-Spinal Meningitis	- 3
Enteric Fever	- 5
Dysentery	- 3
Rubella	- 4
Mumps	- 5
Whooping Cough	- 1
Morbilli	- 6

ANTERIOR POLIOMYELITIS. The case admitted was slight and after preliminary isolation received further treatment for footdrop at the Royal Hospital.

CEREBRO-SPINAL MENINGITIS. The recovery following a diagnostic lumbar puncture and the exhibition of sulphapyridene was within 24 hours in all cases, and continued uneventful.

ENTERIC FEVER. All cases were sporadic paratyphoid B. infectious and made straightforward recoveries.

DYSENTERY. All cases were Flexner type and recovered.

DEATHS FROM CAUSES OTHER THAN DIPHTHERIA WERE AS FOLLOWS :-

Tubercular Meningitis	- 2
Acute Infective Endocarditis	- 1
Scarlet Fever	- 1
Uraemia	- 1

D I P H T H E R I A I M M U N I S A T I O N .

In 1941 propaganda was pursued by the further display of the film "Growing to Health and Happiness" (at local cinemas), the issue of leaflets to parents of children attending Infant Schools, and above all direct contact and co-operation with the head teachers by the medical officers. But a feature of the year has been the tremendous increase of immunisations at the welfare centres from 576 children in 1940 to 1,776 children in 1941. Valuable assistance both in schools and at certain clinics has been given by Civil Defence nursing auxiliaries attached to the Posts.

A total of 1,932 schoolchildren were immunised, comprising 1,305 in school, 264 at welfare clinics, 10 by private doctors and 43 at the Borough Hospital and 310 at North Street. In addition, 1,803 children under school age were immunised, 1,512 at welfare centres, 180 by private doctors, 80 at Education Offices and 31 at the Borough Hospital, making a grand total of 3,735 for the year.

Immunisations done at the various welfare centres and at the Borough Hospital are summarised below :-

<u>Welfare Centre.</u>	<u>Pre-School Children</u>	<u>School Children</u>	<u>No. of Injections</u>
Lea Road	635	113	1,496
Stafford Street	321	34	710
Park Lane	315	62	871
Fordhouses	202	40	223
Ward Street	39	15	108
	<u>1,512</u>	<u>264</u>	<u>3,408</u>
North Street	80	310	780
Private Doctors	180	10	380
Borough Hospital	31	43	148
	<u>1,803</u>	<u>627</u>	<u>4,716</u>

The material used is Alum Precipitated Toxoid, the initial dose 0.5 c.c. and the final dose 0.5 c.c., with an interval of one month, except at the Borough Hospital where it is only possible to allow a fortnight's interval. The larger initial dose allows for any leakage after injection.

Post Schick Tests at Welfare Centres.

Welfare Centre.		Total Schick	Schick Pos.	% Schick Pos.	Schick Neg.	% Schick Neg.
Under 5 Years	Lea Road	444	14	3.15	430	96.8
	Stafford Street	207	11	5.3	196	94.6
	Park Lane	78	2	2.5	76	97.4
	Fordhouses	76	4	5.2	72	94.7
	Ward Street	60	2	3.3	58	96.6
		<u>865</u>	<u>33</u>	<u>3.8</u>	<u>832</u>	<u>96.1</u>
Over 5 Years	Lea Road	53	3	5.6	50	94.3
	Stafford Street	8	-	-	8	100
	Park Lane	6	-	-	6	100
	Fordhouses	9	-	-	9	100
	Ward Street	19	1	5.2	18	94.7
		<u>95</u>	<u>4</u>	<u>4.2</u>	<u>91</u>	<u>95.7</u>
		<u>960</u>	<u>37</u>	<u>3.84</u>	<u>923</u>	<u>97.17</u>

In 1940 the Schick negative rate was 95.30%.

Medical practitioners are given free supplies of A.P.T. for treating their own patients. In addition they are paid a fee of five shillings for each child under five years of age who is immunised by them.

An Immunisation Clinic is held once a week at each of the Welfare Centres in the town, and also that the Central School Clinic by appointment.

On its first birthday the parents of every child born in the town receive a letter setting out the advantages of active protection against diphtheria.

The following is a record of the number of children immunised during the past ten years :-

1932	-	400	1937	-	4040
1933	-	408	1938	-	2900
1934	-	430	1939	-	1571
1935	-	2707	1940	-	1500
1936	-	2680	1941	-	3142

■ Immunisation in Infant and Junior Schools started.

TUBERCULOSIS.

(i) Notification Register: The Register on 31st December, 1941, included 361 males and 290 females suffering from Pulmonary Tuberculosis and 96 males and 94 females suffering from Non-Pulmonary Tuberculosis, making a total of 841 cases.

(ii) Incidence: New cases amounted to 163 as compared with 123 in 1940 and 119 in 1939. The chief increase was in males between 35 and 45.

(iii) Mortality: From respiratory tuberculosis the deaths were 49 males and 25 females. From non-pulmonary tuberculosis the figures were 17 males and 4 females. This gives a tuberculosis death rate of 0.66 per 1,000 population, the pulmonary and non-pulmonary rates being 0.52 and 0.14 respectively.

